

IMPROVED KINETIC SPRAY NOZZLE SYSTEM DESIGN**ABSTRACT OF THE DISCLOSURE**

An improved kinetic spray nozzle system is disclosed in addition to improved methods for injection particle powders into a nozzle. Utilization of the nozzle enables one to dramatically increase the deposition efficiency of a variety of particles using a kinetic spray process. The improved nozzle includes a powder/gas conditioning chamber that increases the particle residence time within the nozzle thereby enabling one to achieve higher particle temperatures prior to their acceleration in the supersonic portion of the kinetic spray nozzle.